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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

93-199

Federal Communications Commission
Office of the Secretary

In the Matter of

Request for Rulemaking
Setting Standards for
Aviation Receivers

RM 7610

To: The Commission

**OPPOSITION OF
AERONAUTICAL RADIO, INC., AND
THE AIR TRANSPORT ASSOCIATION OF AMERICA**

Aeronautical Radio, Inc. (ARINC) and the Air Transport Association of America (ATA), pursuant to Section 1.403 of the Commission's Rules, hereby opposes the Petition for Rulemaking filed by John Furr and Associates, Inc. (Furr).

The Petitioner is a communications consultant and seeks to have the FCC establish standards for aircraft Instrument Landing Systems (ILS) localizer and VHF communications receivers so that new or modified FM broadcast stations may have greater freedom of site selection without causing harmful interference to aviation safety services. Furr's complaint, however, appears to be with the Federal Aviation Administration (FAA) which can block construction or alteration of FM stations that would constitute a hazard to air navigation by causing interference to aircraft using ILS. To the extent Furr's complaint is with FAA procedures, these procedures are now under consideration by that agency

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in FAA Docket No. 26305. The remedy sought by Furr, the creation of FCC standards for aviation receivers, however, is not within the authority of the Commission, and Furr's Petition contains no probative data to support his claim that such a remedy would serve the public interest. Moreover, the question of aviation receiver immunity has been addressed by the International Civil Aviation Organization (ICAO), which has set internationally agreed upon standards binding upon the United States. The Petition should be dismissed. Further regulation by the FCC is unnecessary and inappropriate.

The Communications Act does not confer upon the FCC general authority to regulate receivers directly. The Commission's authority under Section 303(f) to "make regulations not inconsistent with law ... to prevent interference between stations" and Section 303(g) "generally [to] encourage the larger more effective use of radio in the public interest" do confer authority to regulate transmitters, but not receivers. Receivers are not subject to license by the FCC and are regulated only to the extent that they are incidental radiators.

Where the Commission was to be given authority over receiving equipment or other non-radiating aspects of electronic equipment, Congress specifically addressed the authority Section 330 gives the FCC authority to regulate television broadcast receivers. Section 302a allows the FCC to

set immunity standards for home electronic systems. Sections 351-356 give the FCC significant authority over maritime radio installations. These provisions are exceptions to the general rule that the FCC does not have direct regulatory authority over receivers.

With these narrow exceptions, the FCC's authority over receivers is limited to indirect regulation. The Commission's assignments are based upon a set of assumed receiver characteristics; receivers not meeting those characteristics are not protected. But even this indirect regulation is not unbounded. The assumptions must be reasonable and consistent with other law and treaties. Furr has not demonstrated in its Petition that the assumption and criteria used by the FAA are not reasonable. Moreover, the question of immunity standards for ILS localizer and VHF communications receivers have been fully addressed internationally, and the FCC is obliged to employ receiver assumptions that are consistent with Annex 10 to the Convention on International Civil Aviation.

Aeronautical and broadcast interests came together several years ago under the aegis of CCIR to determine what standards were appropriate to allow the greatest practicable use of FM broadcast sitings and to protect the integrity of the ILS system and aeronautical VHF communications. As a result, the world aviation community has adopted improved

immunity standards for ILS localizer and VHF communications receivers effective January 1, 1998. These improved interference immunity performance standards are set forth in Annex 10 to the Convention of International Civil Aviation,¹ which is a treaty obligation of the United States.

The FCC should adopt FM station siting criteria that will protect international civil aviation operating in accordance with ICAO Annex 10. The FCC should not unilaterally adopt standards or criteria for aircraft receivers that are more stringent than those internationally agreed upon, because such an action could result in interference to international aircraft in violation of this treaty.²

Moreover, although the Petition contains some generalized and anecdotal "evidence" that the present FAA interference model may be too stringent, the Petition fails utterly to establish a factual need for Commission action. The problem of interference to ILS localizers by FM broadcast stations has been studied by the Center for Electromagnetic Theory and Applications of the Massachusetts Institute of Technology (MIT) as part of a study of ILS frequency management for the FAA.³ The principal focus of the MIT study was

¹ See ICAO Annex 10, Volume 1, ¶ 3.1.4, 4.7.3 (4th ed. 1985). See also *id.* Attachment D, ¶ 2.3.

² Cf. 47 USC § 303(r).

³ See Proceedings, Industry MLS Evaluation Task Force Meeting, February 14, 1991.

to determine the long term ability of ILS to meet the national needs for precision approaches during inclement weather. One of the principal limiting factors identified by MIT in the assignment of discrete ILS frequencies in major metropolitan areas is harmful interference levels from multiple FM broadcast stations. The reasons for this interference are (1) the lack of guardband between the FM broadcast spectrum (88-108 MHz) and the localizer portion of the ILS (108-112 MHz), (2) the substantial difference in power between the FM broadcast (1-100 kW) and the localizer (15 W) transmitters, and (3) the large number of FM stations located in metropolitan areas. The simple fact of the matter is that the FAA has run out of available channels to reassign frequencies for ILS to avoid interference.

Furr finds comfort in the lack of disasters resulting from FM interference to ILS and asserts that to be evidence that localizer receivers are better than assumed by the FAA. Furr overlooks two important facts.

First, the FAA has been assigning ILS localizer frequencies to avoid receiving interference from FM stations. The growth of FM broadcast and the increased need for ILS limits the FAA's ability to continue to avoid interference by frequency assignment.

Second, the interference triggers a flag in the ILS receiver display indicating that the ILS signal is not

sufficiently reliable to make a precision landing and the pilot does not land. This does not mean that there have not been numerous cases of interference, only that aeronautical procedures are designed to avoid disaster in the event of unreliable system operation. Furr's proposal would further degrade the usability of instrument landing systems causing greater delays and expenses to the air transport industry and the over 400 million people traveling by air annually.

Furr also complains that the maintenance of safety margins can increase the cost of establishing a new FM station between \$10,000 and \$150,000 for regulatory compliance, but claims that the increased cost to aviation of new avionics would be only "modest." Again, the facts are not consistent with Furr's argument. Furr has not provided a specific proposal (as required by Section 1.401 of the Rules), and it is not clear that receivers that would provide relief to Furr's clients are feasible. Nonetheless, new ILS receiver standards would require most transport aircraft to replace two navigation receivers each, which typically cost in the range of \$10,000 to \$15,000 per unit. For the over 4,000 transport aircraft operating in the domestic United States, this would equate to \$80 to \$120 million in additional equipment costs. In addition, all aircraft capable of Category II and Category III landing would have to be recertified by the FAA at a cost in excess of \$1 million per

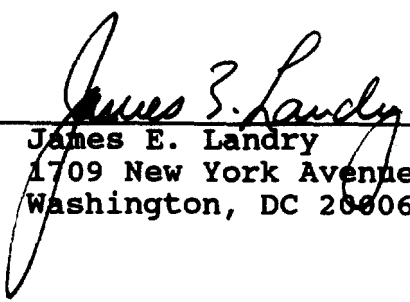
aircraft type. Finally, the installation transition would take several years to accomplish after the new equipment is available and the aircraft were recertified. Aviation currently has just such a program underway to meet the January 1, 1998, deadline; FCC involvement at this time could only disrupt that process.

In sum, to the extent Mr. Furr's Petition is more appropriately directed against the ongoing rulemaking by the Federal Aviation Administration; the FCC is currently working with the FAA to reach a common understanding of these matters. To the extent that Mr. Furr seeks direct regulation of aircraft receivers and standards higher than those contained in international treaties to which the United States is a party, they are both unnecessary and improper. The Petition should be dismissed.

Respectfully submitted,

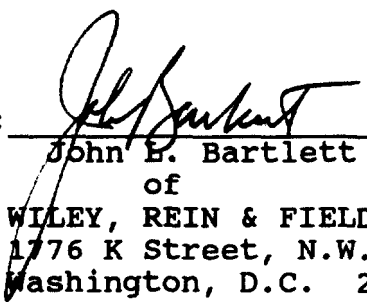
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March 11, 1991

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on this 11th day of March 1991, copies of the attached "Opposition of Aeronautical Radio, Inc., and the Air Transport Association of America" were served by first-class mail, postage prepaid, on the following:

John Furr & Associates, Inc.
2700 N.E. Loop 410, Suite 325
San Antonio, Texas 78217

Beverly A. Flinn
Beverly A. Flinn

On this 11th day of March 1991,
I, Beverly A. Flinn, do hereby certify that the foregoing is a true and correct copy of the original as the same was served by first-class mail, postage prepaid, on the following: